

AMENDMENTS TO THE CLAIMS

1-21. (Canceled)

22. (Currently Amended) An antenna for multiple bands, characterized in that

one end of an antenna element is electrically connected to a feeding point, said antenna element extending longitudinally from the feeding point to the other end thereof to obtain necessary electrical length for antenna operation,

one ends of switches are connected respectively to at least one intermediate point and the other end of said antenna element, said intermediate point being a point on the longitudinally extending antenna element,

the other end of one of these switches is connected to a ground conductor directly,

the other ends of others of these switches are connected respectively to said ground conductor with an extension coil or a short capacitor inserted in series therebetween,

different electrical lengths from said feeding point via said switches closed up to electrical connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, and

resonant frequencies with which different electrical lengths of said antenna element from said feeding point up to the connections to said switches resonate are set not to come close to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via any other switch closed resonates.

23. (Currently Amended) An antenna for multiple bands, characterized in that one end of an antenna element is electrically connected to a feeding point said antenna element extending longitudinally from the feeding point to the other end thereof to obtain necessary electrical length for antenna operation, one ends of different series resonant circuits, each comprising a capacitor and a coil, are connected respectively to at least one intermediate point and the other end of said antenna element said intermediate point being a point on the longitudinally extending antenna element, the other ends of these series resonant circuits are connected respectively to a ground conductor with ~~or without~~ an extension coil or a short coil capacitor inserted in series therebetween, different electrical lengths from said feeding point via said series resonant circuits up to the connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, the resonant frequency of one series resonant circuit is set equal to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via that series resonant circuit resonates, and resonant frequencies with which different electrical lengths of said antenna element from said feeding point up to the connections to said series resonant circuits resonate are set not to come close to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via any other series resonant circuit resonates.

24. (Currently Amended) An antenna for multiple bands, characterized in that one end of an antenna element is electrically connected to a feeding point, one ends of different filters are connected respectively to at least one intermediate point and the other end of said antenna

element, the other ends of these filters are connected respectively to a ground conductor with ~~or~~ ~~without an~~ extension coil or a short ~~coil~~ capacitor inserted in series therebetween, different electrical lengths from said feeding point via said filters up to the connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, each of said filters allows passage of one of said frequency bands with which the electrical length from said feeding point via the filter to the connection to said ground conductor resonates and blocks passage of one of said frequency bands with which the electrical length from the feeding point via any other filter to the connection to said ground conductor resonates, and resonant frequencies with which different electrical lengths of said antenna element from said feeding point up to the connections to said filters resonate are set not to come close to one of said frequency bands with which the electrical length from said feeding point via any other filter to the connection to said ground conductor resonates.

25. (Currently Amended) An antenna for multiple bands, characterized in that one end of an antenna element is electrically connected to a feeding point, one ends of different parallel resonant circuits, each comprising a capacitor and a coil, are connected respectively to one intermediate point and the other end of said antenna element, the other ends of these parallel resonant circuits are connected respectively to a ground conductor with ~~or without an~~ extension coil or a short ~~coil~~ capacitor inserted in series therebetween, different electrical lengths from said feeding point via said parallel resonant circuits up to the connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, the resonant

frequency of one parallel resonant circuit connected to said one intermediate point is set equal to one of said frequency bands with which the electrical length from said feeding point via said other end up to the connection to said ground conductor resonates, the resonant frequency of another parallel resonant circuit connected to said other end is set equal to another one of said frequency bands with which the electrical length from said feeding point via said one intermediate point up to the connection to said ground conductor resonates, and resonant frequencies with which different electrical lengths of said antenna element from said feeding point up to the connections to said parallel resonant circuits resonate are set not to come close to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via any other parallel resonant circuit resonates.

26. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that a matching circuit is inserted between said feeding point and the one end of said antenna element and said electrical lengths including said matching circuit are set.

27. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that a capacitor is inserted in series or capacitance is coupled between said feeding point and an intermediate point with the shortest electrical length from said feeding point.

28. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that two parallel conductors disconnected in direct current are inserted in series so as to be inductively coupled together between said feeding point and an intermediate point with the shortest electrical length from said feeding point.

29. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said antenna element is formed in a meandering pattern.

30. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said antenna element is formed on the surfaces of a dielectric.

31. (Previously Presented) The antenna for multiple bands according to claim 24, characterized in that said antenna element and said filters are arranged on a dielectric.

32. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in an approximate rectangle and said antenna element is formed, bordering on one short side of said rectangle, separated from said ground conductor.

33. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in an approximate rectangle on a flat

substrate and said antenna element is formed on said substrate, bordering on one short side of said rectangular ground conductor, separated from said ground conductor.

34. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in a rectangle, said antenna element is formed, bordering on one short side of the rectangle, separated from said ground conductor, and said antenna element is formed in a meandering pattern turned around repeatedly in a direction parallel to the long sides of said rectangular ground conductor.

35. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in a rectangle, said antenna element is formed, bordering on one short side of the rectangle, separated from said ground conductor, and said antenna element is formed in a meandering pattern turned around repeatedly in a direction parallel to the short sides of said rectangular ground conductor.

36. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in a rectangle, said antenna element is formed, bordering on one short side of the rectangle, separated from said ground conductor, one part of said antenna element is formed in a meandering pattern turned around repeatedly in a direction parallel to the long sides of said rectangular ground conductor, the remaining part of

said antenna element is formed in a meandering pattern turned around repeatedly in a direction parallel to the short sides of said rectangular ground conductor.

37. (Previously Presented) The antenna for multiple bands according to claim 22, characterized in that said ground conductor is formed in a rectangle, said antenna element is formed, bordering on one short side of the rectangle, separated from said ground conductor, a half part of said antenna element from its one end which is electrically connected to said feeding point is formed in a meandering pattern turned around repeatedly in a direction parallel to the long sides of said rectangular ground conductor, and the remaining half part of said antenna element up to the other end which is electrically connected to said ground conductor is formed in a meandering pattern turned around repeatedly in a direction parallel to the short sides of said rectangular ground conductor.

38. (Currently Amended) The antenna for multiple bands according to claim 22, characterized in that said antenna element is formed in a meandering pattern along an imaginary circular cylinder plane and one end, the other end, and an intermediate point of said antenna element are positioned so that they ~~can be~~ are connected to and disconnected from said feeding point and the switches, the series resonant circuits, the parallel resonant circuits, or the filters.

39. (Currently Amended) The antenna for multiple bands according to claim 22, characterized in that said antenna element is formed in a meandering pattern along an imaginary

circular cylinder plane and one end, the other end, and an intermediate point of said antenna element are positioned so that they ~~can be~~ are connected to and disconnected from said feeding point and the switches, the series resonant circuits, the parallel resonant circuits, or the filters, and, in a casing in which said ground conductor, said feeding point, and the switches, the series resonant circuits, the parallel resonant circuits, or the filters are housed, said antenna element is installed in a position so as to protrude outside and to be removable.

40. (Currently Amended) An antenna for multiple bands, characterized in that one end of an antenna element is electrically connected to a feeding point, one ends of any of a switch, a series resonant circuit, ~~each~~ comprising a capacitor and a coil, and a filter, which ~~may or may not be employed, as required,~~ are connected respectively to at least one intermediate point and the other end of said antenna element, the other ends of these switch, series resonant circuit, and filter are connected respectively to a ground conductor with ~~or without~~ an extension coil or a short ~~coil~~ capacitor inserted in series therebetween, different electrical lengths from said feeding point up to the electrical connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, the resonant frequency of said series resonant circuit is set equal to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via the series resonant circuit resonates, said filter allows passage of one of said frequency bands with which the electrical length from said feeding point via the filter to the connection to said ground conductor resonates and blocks passage of one of said frequency bands with which the electrical length from the

feeding point to the connection to said ground conductor without the intervention of the filter resonates, and a resonant frequency with which the electrical length of said antenna element from said feeding point up to the connection to said switch, said series resonant circuit, or said filter resonates is set not to come close to one of said frequency bands with which the electrical length from said feeding point to the connection to said ground conductor via said switch, said series resonant circuit, or said filter resonates at a different frequency from said resonant frequency.

41. (Currently Amended) An antenna for multiple bands, characterized in that one end of an antenna element is electrically connected to a feeding point, the other end of said antenna element is electrically connected directly to the ground conductor, one end of any of a switch, a series resonant circuit, each comprising a capacitor and a coil, and a filter is connected to at least one intermediate point of said antenna element, the other end of said switch, said series resonant circuit, or said filter is connected to said ground conductor with ~~or without~~ an extension coil or a short coil capacitor inserted in series therebetween, different electrical lengths from said feeding point up to the electrical connections to said ground conductor are set to be capable of resonating different desired frequency bands respectively, the resonant frequency of said series resonant circuit is set equal to one of said frequency bands with which the electrical length from said feeding point up to the connection to said ground conductor via the series resonant circuit resonates, said filter allows passage of one of said frequency bands with which the electrical length from said feeding point via the filter to the connection to said ground conductor resonates

and blocks passage of one of said frequency bands with which the electrical length from the feeding point to the connection to said ground conductor without the intervention of the filter resonates, and a resonant frequency with which the electrical length of said antenna element from said feeding point up to the connection to said switch, said series resonant circuit, or said filter resonates is set not to come close to one of said frequency bands with which the electrical length from said feeding point to the connection to said ground conductor via said switch, said series resonant circuit, or said filter resonates at a different frequency from said resonant frequency.